Before the
Federal Communications Commission
Washington, D.C. 20554

ORIGINAL

In the Matter of	)	
	)	
Deployment of Wireline Services Offering	)	CC Docket No. 98-147
Advanced Telecommunications Capability	)	

COMMENTS OF U S WEST COMMUNICATIONS, INC.

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SUMMARY

The FNPRM's line-sharing proposal rests on a fundamental misunderstanding of the nature of loops. The FNPRM equates line sharing with granting CLECs unbundled access to the "'high-frequency portion' of the loop," FNPRM ¶ 99, or a loop's "data functionality," *id.* ¶ 103. But a loop *does not have* a preexisting high-frequency portion or data functionality. Rather, a loop is simply a piece of copper wire through which electrical impulses can be transmitted, and its capacity and performance are entirely dependent on the equipment used to generate those impulses. Accordingly, CLECs that seek to purchase access to the "high-frequency portion" of the loop cannot obtain some preexisting data channel that resides within the loop -- *because there is no such thing.*

Despite the term "line sharing," what CLECs seek is to purchase a *whole* unbundled loop, extend the loop into their collocation space on the incumbent's property, and attach their own, preferred xDSL electronics. A CLEC then would force the incumbent LEC to buy back whatever frequencies the CLEC chooses to let the incumbent use to provide voice telephony. In other words, the CLEC would buy and control the entire loop, but would use only a part of it.

The principal problem with this proposal is that requiring incumbent LECs to provide voice service using spectrum defined and generated by CLECs -- and over which the incumbent LEC would have no control whatever -- would deprive incumbents of the ability to ensure the quality and reliability of their voice service. Indeed, some xDSL technologies preclude the provision of voice service altogether.

The FNPRM's line-sharing proposal also is inconsistent with the 1996 Act. Line sharing cannot be justified under section 251(c)(3) of the Act, because a CLEC would not obtain

access to a "network element" owned by an incumbent LEC. 47 U.S.C. § 251(c)(3). Even if a network element could be identified, CLECs plainly would not be "impaired" if denied the right to force incumbents to buy back a voice channel on the loop. *Id.* § 251(d)(2)(B). To the contrary, competition is thriving in the advanced services marketplace.

Moreover, the Commission's approach to high-speed data services offered by cable operators -- the dominant providers of such services -- would make it particularly inappropriate to impose an onerous and affirmatively harmful line-sharing requirement on incumbent LECs. Unlike cable operators, incumbent LECs *already* give their competitors unbundled access to their basic transmission facilities. Adoption of the FNPRM's line-sharing requirement would exacerbate this unwarranted regulatory disparity.

TABLE OF CONTENTS

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	)	
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U S WEST Communications, Inc. ("U S WEST") submits these comments in response to the Commission's Further Notice of Proposed Rulemaking ("FNPRM") in the above-captioned docket. After discussing several spectrum compatibility and management issues, U S WEST turns to its primary concern: the FNPRM's line-sharing proposal.

That proposal is deeply flawed. First, it rests on a fundamental misunderstanding of the nature of loops. The FNPRM equates line sharing with granting CLECs unbundled access to the "'high-frequency portion' of the loop," FNPRM ¶ 99, or a loop's "data functionality," *id.* ¶ 103. But a loop *does not have* a preexisting high-frequency portion or data functionality. Rather, a loop is simply a piece of copper wire through which electrical impulses can be transmitted, and its capacity and performance are entirely dependent on the equipment used to generate those impulses. If, for example, a carrier installs electronics to provide only a voice-grade channel, the loop spectrum will consist only of narrow voice-band frequencies. If, by contrast, a carrier installs RADSL electronics, then the spectrum generated on the loop will permit transmission of simultaneous voice and data signals, something that cannot be done with the equipment used to create voice signals. There is no *inherent* or *generic* high-frequency portion of the loop. Accordingly, CLECs that seek to purchase access to the "high-frequency

portion" of the loop cannot obtain some preexisting data channel that resides within the loop -- *because there is no such thing.*

There are thus only two ways for competing carriers to share a loop. First, a CLEC could purchase access to a data channel already created by an *incumbent LEC's* installation of xDSL equipment and then resell that service. This is not what CLECs are seeking: It would require the CLEC to use the data service created by the incumbent's equipment -- which most CLECs are unwilling to do -- and would be available only where the incumbent LEC already has deployed xDSL equipment. Second, a CLEC could purchase an unbundled loop, extend the loop into its collocation space on the incumbent's property, and attach the CLEC's own, preferred xDSL electronics. The CLEC then would require the incumbent LEC to buy back whatever unused spectrum the CLEC chooses to let the incumbent use to provide voice telephony. In other words, the CLEC would buy and control the entire loop, but would use only a part of it. *That* is what CLECs seek, so they can use whatever xDSL technology they prefer, and in any feasible location.

Requiring incumbent LECs to provide voice service using spectrum defined and generated by CLECs -- and over which the incumbent LEC would have no control whatever -- would deprive incumbents of the ability to ensure the quality and reliability of their voice service. Indeed, some xDSL technologies preclude the provision of voice service altogether.

The FNPRM's line-sharing proposal also is inconsistent with the 1996 Act. Although the FNPRM conceives of the line-sharing proposal as an unbundling requirement, *see* FNPRM ¶ 100, a loop has no preexisting data functionality that can be unbundled. Thus, line sharing cannot be justified under section 251(c)(3) of the Act, because a CLEC would not obtain access to a "network element" owned by an incumbent LEC. 47 U.S.C. § 251(c)(3). Even if a

network element could be identified, CLECs plainly would not be "impaired" if denied the right to force incumbents to buy back a voice channel on the loop. *Id.* § 251(d)(2)(B). By assuring CLECs the opportunity to purchase incumbent LECs' loops and collocation space, the Commission already has ensured that CLECs have access to the basic inputs that incumbents use in their own provision of advanced services. No further action is required in the name of competition, as evidenced by the fact that many CLECs are successfully providing broadband services.

Cost allocation and pricing issues provide an additional reason to reject the line-sharing proposal. Where a CLEC takes a whole loop and gives back a portion it does not want, the CLEC should not receive any discount off the unbundled loop price -- because the incumbent LEC does not want the CLEC's discarded frequencies, either. Those frequencies are not suitable for the provision of high-quality, reliable voice services, and accordingly are of no value to incumbent LECs.

Finally, the FNPRM fails to recognize that requiring line sharing would exacerbate the existing disparity between the Commission's hands-off treatment of the dominant providers of advanced services -- cable operators -- and its heavy regulation of incumbent LECs. Cable operators have argued that the Commission should not unbundle cable modem facilities (or otherwise regulate broadband services), because advanced services provided over such facilities are in their infancy, and regulation would only stifle continued innovation and deployment.[1] AT&T and TCI have stressed that upgrading cable networks to deliver advanced

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1/ *See, e.g., Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Tele-Communications, Inc., Transferor, to AT&T Corp., Transferee,* Memorandum Opinion and Order, CS Docket No. 98-178, FCC 99-24 ¶ 80 (rel. Feb. 18, 1999).

services constitutes "an economic and technological risk that cable companies will not undertake if they would then have to provide unbundled access to those upgraded facilities to third parties . . . at regulated and potentially noncompensatory rates."[2] Indeed, in the view of AT&T's Chairman and CEO, "[n]o company will invest billions of dollars to become a facilities-based broadband services provider if competitors who have not invested a penny of capital nor taken an ounce of risk can come along and get a free ride. . . . That would be a major disincentive to the kind of risk-taking that goes with infrastructure investments."[3] Based in part on such contentions, the Commission declined to impose any unbundling conditions on its approval of the AT&T-TCI merger, and has refrained from adopting such a requirement in other proceedings. Whether or not the Commission has been right to refrain from subjecting cable operators to an unbundling requirement, its asserted reason for doing so -- the existence of alternative broadband providers, *including CLECs*[4] -- at the very least demonstrates that incumbent LECs, which *are* required to unbundle their basic transmission facilities, should not be forced to depend on CLECs to define and provide the frequencies over which incumbents must provide voice and other carrier-of-last-resort services.

2/ AT&T's and TCI's Joint Reply to Comments and Joint Opposition to Petitions To Deny or To Impose Conditions at 50-51 (filed Nov. 13, 1998), in CS Docket No. 98-178.

3/ C. Michael Armstrong, *Telecom and Cable TV: Shared Prospects for the Communications Future* (speech delivered to the Washington Metropolitan Cable Club, Washington, D.C., Nov. 2, 1998) (available at www.att.com/speeches/98/981102.maa.html).

4/ *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, FCC 99-5, ¶¶ 56, 101 (rel. Feb. 2, 1999) ("*Section 706 Report*").

I. SPECTRUM COMPATIBILITY AND MANAGEMENT

U S WEST commends the Commission for taking up the spectrum compatibility and management issues raised in the FNPRM. CLECs using copper pairs for xDSL service will cause interference in adjacent loops, and degrade the quality and reliability of the circuit-switched network, unless required to deploy technologies consistent with the PSD masks established by the T1E1.4 standards body.

A. The Commission Is Correct That the Industry, Via Its Standards Bodies, Can Create Acceptable Standards for Advanced Services.

The Commission appropriately recognizes that relying on industry groups such as T1E1.4, rather than imposing regulatory mandates, is the best means of creating technical standards acceptable to carriers and manufacturers alike. *See* FNPRM ¶ 80. In particular, the Commission is correct that "the standards development process is continuous in nature," *id.*, and thus incompatible with a rigid, top-down approach. The Commission's interest in ensuring a timely, fair, and open process militates in favor of continued reliance on T1E1.4, which is widely attended by equipment manufacturers, CLECs, and incumbent LECs, and already has made significant progress in developing quantitative spectrum compatibility standards.

1. The Commission Is Correct That T1E1.4 Is the Best Choice for Developing PSD Masks.

U S WEST agrees that T1E1.4 is the best forum for developing power spectral density ("PSD") masks. *See* FNPRM ¶ 81. Because far fewer incumbent LECs participate in T1E1.4 than CLECs or equipment manufacturers, incumbents' interests are often given relatively little weight in the standards-setting process. But T1E1.4 has reached consensus regarding five PSD masks and appears able to develop additional masks to the extent necessary.

2. Generic Masks, Paired with a Calculation-Based Approach, Will Best Address Spectrum Compatibility Concerns.

To date, T1E1.4 has adopted PSD masks that generically define five classes of services based on their spectral and interference characteristics. Each class comprises services whose line rates, power limits, and service reaches, among other things, fall within a particular range. A key benefit of such generic PSD masks is that they give carriers ample freedom in their selection of technologies and service attributes; a carrier need only ensure that its proposed service fits within one of the five existing classes. Moreover, T1E1.4 has a process for defining new PSD masks in the unlikely event that a carrier or manufacturer is unable to meet the requirements of an existing class. The service-class approach also fosters the development of technologies that do not harm the public switched telephone network. This approach would not restrict deployment of technologies that otherwise would not harm the network, FNPRM ¶ 82, because, by definition, a service falling outside the service classes defined by T1E1.4 *would* undermine service reliability and harm the network.

Spectrum compatibility standards can be fine tuned by supplementing the service-class approach with a calculation-based approach. *See* FNPRM ¶ 83. That a particular technology fits within an existing PSD-based service class is not necessarily sufficient to avoid spectrum interference, because services from different classes often must be deployed in the same binder group. Compatibility standards therefore must allow the different service classes to coexist. The widely adopted interference model defined by T1E1.4 standard T1.413 enables incumbent LECs more precisely to quantify the spectrum compatibility of multiple services, and thus to minimize spectrum interference.

B. T1E1.4 Should Not Serve as a Forum for Creating Spectrum Management Rules.

While T1E1.4 makes valuable contributions in the area of setting technical standards, it is not a viable *policy*making body. U S WEST strongly supports the Commission's general conclusion that turning to an industry group for the difficult task of addressing management issues such as binder group administration makes the most sense. *See* FNPRM ¶ 85. As with creating technical standards, the industry is in the best position to decide what will work, and what will not. But *which* segment of the industry should make such decisions is a question the FNPRM fails to consider.

A forum (or forums) in which telecommunications carriers' interests are strongly represented should be responsible for adopting policies and rules. T1E1.4 consists primarily of equipment manufacturers; carriers, which will bear the burden of implementing whatever spectrum management rules an industry group promulgates, have relatively little say in T1E1.4. That body accordingly has been unable to resolve challenges relating to spectrum management, and has effectively (and appropriately) given up on trying to do so. Far better choices for the task of creating appropriate policies and rules are *carrier* forums, such as Alliance for Telecommunications Industry Solutions ("ATIS") forums. The ATIS Network Interconnection Interoperability Forum provides a suitable arena for addressing network management and reliability issues, and the Order and Billing Forum has proven useful for resolving OSS-related issues.

1. Use of the Generic PSD-Based Service Classes Is the Best Way To Balance the Conflicting Goals of Maximizing the Deployment of New Technologies within Binder Groups and Minimizing Interference.

Rather than specifying the particular types and numbers of technologies that can be deployed within a binder group, FNPRM ¶ 86, the Commission should require adherence to the generic PSD masks defined by T1E1.4, paired with use of the T1.413 interference model. That will allow carriers flexibility in their selection of technologies and service attributes without sacrificing service reliability and network integrity. The service-class approach is consistent with the FNPRM's interest in minimizing interference with future technologies, *id.*, because (a) the existing classes can accommodate a wide range of different technologies, and (b) to the extent necessary, T1E1.4 can define new service classes.

Carriers cannot be granted unbridled freedom to deploy technologies to the point of ignoring PSD-based service classes. Doing so inevitably would undermine incumbents' ability to protect basic voice service from bothersome and potentially dangerous cross-talk. Thus, while the service-class approach is "restrictive" in the sense that it places some limits on carriers' choice among technologies, such is the nature of managing spectrum. To eschew such restrictions would be to endorse spectrum anarchy.

2. There Is No Basis for CLECs' Purported Concern that Incumbents Will Attempt to Segregate xDSL Technology.

The FNPRM appears to assume -- mistakenly -- that incumbent LECs seek to segregate competitors' xDSL technology in separate binder groups. In fact, segregation of xDSL technology is simply not feasible in most circumstances, as T1E1.4 has confirmed in promulgating its T1.413 standard. U S WEST is forced to refrain from deploying xDSL in many service areas because it cannot rely on segregation as a means of preventing spectrum

interference. The limited capacity of incumbents' networks constrains the ability of *incumbents and CLECs alike* to deploy xDSL service.

The FNPRM notes that incumbents traditionally have segregated AMI T1 as a potential disturber. *See* FNPRM ¶ 86. That is only partly correct. Where T1 lines have been deployed as interoffice facilities, segregation generally has been feasible because interoffice facilities, unlike loop plant, fairly readily permit the segregation of "transmit" and "receive" pairs into separate binders. But where T1 lines have been deployed in support of digital loop carrier systems, segregation generally has *not* been feasible. The AMI T1 experience does not provide a model for the management of loop spectrum.

3. The Commission Should Recognize That It Is Generally Infeasible To Remove Existing Interfering Technologies, and at Most Should Impose a Sunset for New Deployment.

The Commission correctly notes that carriers have a substantial base of AMI T1 in place and that, in some areas, AMI T1 provides the only feasible high-speed transmission capability. FNPRM ¶ 87. In addition, it would be prohibitively expensive for a carrier to attempt a rapid changeover from a disturber such as AMI T1 to a technology that is superior from a spectrum management standpoint, such as HDSL. Thus, the Commission should not order the removal of any already-deployed disturbing technology. Market forces are sufficient to prompt carriers to invest in new technologies. If the Commission decides to intervene in the market and impose artificial constraints on carriers' choice of technologies, it at most should cap *new* deployment of interfering technologies like AMI T1.

4. U S WEST Supports Creation of a Third-Party Dispute-Resolution Process Regarding the Existence of Disturbers.

The deployment of certain types of xDSL technologies inevitably will cause spectrum interference in adjacent twisted pairs. If an incumbent LEC determines that a CLEC is to blame for a customer's cross-talk -- typically because the CLEC has used excess power to expand the reach of its service -- the incumbent must be able to take corrective action. Otherwise, incumbent LECs would be powerless to prevent degradation of basic voice service. To ensure that consumers' access to basic telephone service is not significantly compromised any longer than necessary, the Commission should confirm that incumbent LECs may temporarily disable a CLEC's xDSL offering that the incumbent determines to be a disturber, pending a ruling by a third-party arbitrator. Any rules the Commission adopts should recognize this fundamental need for incumbents to be able to prevent harm to their networks and to consumers. Confirming that incumbents have authority to disable disturbers would treat CLECs' advanced services no differently from incumbent LECs' own offerings: Incumbents already shut down their own xDSL services when those services significantly degrade any customer's voice service.

Many disputes regarding the cause of spectrum interference will be resolved informally. But some disputes are inevitable. CLECs should be afforded an expeditious arbitral forum when an incumbent LEC temporarily disables the CLEC's xDSL service and the carriers are unable to reach an agreement as to power usage and other factors that would allow immediate resumption of service. Based on information presented by the carriers involved in the dispute, the arbitrator should be empowered to (a) order a continued disabling of the CLEC's xDSL offering where the service is found to be a disturber, (b) order immediate resumption of any service that is found *not* to be a disturber, and (c) recommend sanctions for noncompliance or

bad faith. Because causes of spectrum interference are ephemeral -- a CLEC can reduce power just as quickly as it improperly increased it -- and therefore elude detection, an arbitrator's conclusion that an incumbent lacked a sufficient basis to disable a CLEC's service, without more, should not be considered grounds for a finding of bad faith.

In a dispute over whether a technology is "'significantly degrading' the performance of other services," FNPRM ¶ 88, the complaining carrier should be required to demonstrate an *effective loss of service* before relief is available. The fact that spectrum interference reduces the transmission speed or capacity of an advanced service cannot be understood as a significant degradation of the service; to the contrary, such slow-downs are expressly contemplated by the PSD masks that allow that service to coexist with other services. An advanced service thus should be deemed "significantly degraded" only where it becomes inoperable. With respect to voice service, how much cross-talk qualifies as an effective loss of service is a more subtle question. U S WEST is prepared to endorse performance standards developed by T1E1.4 for voice bands that indicate unacceptable interference thresholds.

II. THE COMMISSION SHOULD ABANDON THE FNPRM'S FLAWED PROPOSAL TO REQUIRE "LINE SHARING" BY COMPETING CARRIERS.

The Commission should reject the FNPRM's line-sharing proposal. Requiring an incumbent LEC to take back and provide voice service over a channel defined and created by a CLEC would jeopardize the quality and reliability of basic voice service. Compelling such an arrangement, moreover, would be inconsistent with the Communications Act, because competition in data services would not be *impaired* in the absence of line sharing. And proper cost allocation and pricing would undermine the rationale for line sharing, because a CLEC

should not be entitled to any significant rebate based on its return of a voice channel to the incumbent LEC.

A. The FNPRM's Line-Sharing Proposal Would Require an Incumbent LEC To Buy Back a Voice Channel Defined and Created by the CLEC and Thus Make It Impossible for the Incumbent To Assure Service Quality.

The FNPRM's tentative conclusion that "incumbent LECs must provide requesting carriers with access to the transmission frequencies above that used for analog voice service," FNPRM ¶ 99, gives no sense of what is really at stake here. An incumbent LEC cannot simply allow "an xDSL provider to order the data functionality of a loop," *id.* ¶ 103, because a loop does not have a "data functionality."

A loop has no inherent low- and high-frequency portions that can be accessed by competitors. Rather, loop frequencies exist only to the extent that a carrier creates them by means of equipment attached to the ends of the loop. A carrier transmits power through the copper wire and modulates it to generate information capacity. For years, this capacity consisted only of a narrow voice band. Now, as a result of xDSL technology, it also may include frequencies suitable for the transmission of large amounts of data. Either an incumbent LEC or a CLEC -- but not both at the same time -- can attach equipment to a loop to generate data frequencies.

Thus, what the FNPRM calls line sharing could mean one of two things. It could mean that, when an incumbent LECs installs its own xDSL equipment and thereby generates a channel for transmitting data, the incumbent must make that channel available to competitors. Such a requirement would be technically and operationally feasible: Indeed, U S WEST's

MegaBit service *already* is available at tariffed rates to CLECs for purposes of resale.[5] Moreover, such a requirement would comport with a common-sense understanding of line sharing: The incumbent LEC would retain a channel to provide voice service and sell off a data channel of its own creation.

But that sort of line sharing presumably is *not* what the FNPRM proposes. Most CLECs do not want to purchase the *incumbent's* data channel; rather, they want to create their *own* data frequencies using their *own* xDSL equipment. U S WEST has primarily deployed RADSL technology and other asymmetric forms of DSL in its network, whereas most CLECs are using symmetrical DSL applications. Covad, for example, a chief proponent of line sharing, relies extensively on SDSL.[6] A carrier that uses SDSL technology has no interest in U S WEST's ADSL channels, because SDSL will not operate over frequencies created by ADSL equipment.

The FNPRM accordingly must use the phrases such as "data functionality" to refer to data frequencies created by *CLEC* equipment. In order for the CLEC to create the data frequencies it desires -- say, SDSL frequencies -- the incumbent would have to extend an unbundled loop to the CLEC's collocation space, and the *CLEC* then would create a separate channel that the incumbent LEC would be required to take back and use to provide voice service. Thus, just as where a CLEC does not seek to engage in line sharing, it would buy a whole

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5/ If the FNPRM proposes to compel incumbent LECs to provide access to the data channel their equipment generates *at TELRIC rates*, that cannot be ordered under the Act. Converting a resold service into a UNE by *ipse dixit* would conflict with the Act's distinction between the two concepts and, in any event, would in this context be inconsistent with the impairment standard in section 251(d)(2). *See infra* Section II.B.

6/ *See, e.g.*, <www.covad.com/about/press_releases/press_090198.html>

unbundled loop from the incumbent. But here, it would gain the right to *return* a portion of the spectrum it creates through what amounts to a forced buyback transaction.

Such a requirement would wreak havoc on the public switched telephone network. If the Commission were to require incumbents to buy back voice frequencies created by CLECs, incumbents would be held hostage to CLECs' choice of technology, use of power, and overall control of the last mile. Some technologies used by CLECs are simply incompatible with the provision of voice service. For example, many CLECs rely on SDSL equipment that employs a form of line encoding called 2B1Q. The frequencies generated by such equipment all start at 0 Hz and extend to much higher frequencies, and thus *preclude* use of the frequencies ordinarily reserved for voice services (0-4000 Hz). In addition, CLECs use compression techniques that similarly could compromise the availability of the necessary spectrum. Even if a CLEC were providing xDSL in a manner that permitted an incumbent to provide quality voice service, the incumbent could by no means rely on maintaining that quality: A small boost in power by the CLEC to expand the reach of the data service could seriously degrade the voice service. And there would be nothing the incumbent could do about it.

While certain technologies deployed by CLECs already present a serious risk of interference in *adjacent* twisted pairs, the risk of cross-talk or complete inoperability would increase dramatically if the voice carrier were deprived of all control, because interference occurs much more readily when its source is present in the *same* twisted pair. T1E.1.4 has specified limits only to prevent the coupling of interference from xDSL into the voice band in the context of adjacent pairs; *no* standards body has developed limits that would permit line sharing by competing carriers without undue interference.

Even if T1E.1.4 or some other body were to define workable spectrum compatibility standards specific to line sharing by competing carriers, CLECs would have a strong economic incentive to violate such standards, because they would not have to deal with the consequences of degraded voice service. By exceeding specified power limits, a CLEC could reach more customers with its xDSL service, and thus increase revenues. A CLEC would not be deterred from exceeding PSD-based power limits by consequences that would befall the *incumbent LEC's* voice customer -- *i.e.*, the voice degradation that results from exceeding PSD parameters associated with that service. Making matters worse, it is extremely difficult to identify the source of spectrum interference, because power increases are accomplished through software changes within the CLEC's DSLAM and/or customer premises equipment, thus allowing cheaters to prosper without detection in many instances.[7]

The Commission should not underestimate the seriousness of the harm to consumers that would result from such degradation of voice services. While spectrum interference may result in cross-talk that merely constitutes an annoyance, such interference likely would result in an effective loss of service when the disturber is located within the same twisted pair. If basic telephone service were jeopardized, consumers would be denied access to critical lines of communication, including access to emergency services such as 911. Such interference also would cause significant consumer frustration and confusion, because customers would have no way of knowing which carrier is responsible for cross-talk on the voice band.

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[7] It is not only CLECs that would have to be policed: An owner of shared tenant services also would have a strong incentive to increase power usage, and, as with power increases effected by CLECs, the result would be the degradation of voice services provided over the same (and adjacent) twisted pairs.

Customers naturally would assume that the voice carrier is responsible for the service problem, while that carrier might be powerless -- to the customer's chagrin -- to take corrective action.

The Commission has previously recognized that a voice carrier must have control over the use of the *entire* loop, and the FNPRM identifies no reason to depart from that conclusion. In the *Local Competition First Report and Order*, the Commission considered a line-sharing proposal advanced by IXCs, which sought to divide ownership of a loop on a time-share basis so that IXCs could provide interexchange service only -- and avoid paying the full price for an unbundled loop.[8] The Commission rejected that proposal, concluding that a loop element should not be defined "in functional terms, rather than in terms of the facility itself."[9] The Commission further concluded that carriers should have "*exclusive* control over network facilities dedicated to particular end users," and that "a definition of a loop element that allows simultaneous access to the loop facility would preclude the provision of certain services in favor of others."[10] Those conclusions are all the more powerful in this context, where transferring control of the loop to *CLECs* would thwart incumbents' ability to provide quality and reliable voice service.

B. The Commission in any Event Should Conclude That It Lacks Authority To Require Line Sharing by Competing Carriers.

The FNPRM conceives of line sharing as an unbundling requirement. *See* FNPRM ¶ 100. As explained above, however, a loop has no preexisting data functionality that

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8/ *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499, 15693 ¶ 385 (1996) ("*Local Competition First Report and Order*").

9/ *Id.*

10/ *Id.* (emphasis added).

can be unbundled. Rather, the FNPRM's line-sharing proposal would permit a CLEC to force an incumbent LEC to take a particular functionality within the *CLEC's* unbundled loop. Thus, properly understood, line sharing cannot be justified under section 251(c)(3) of the Act, because a CLEC would not obtain access to a "network element" owned by an incumbent LEC. 47 U.S.C. § 251(c)(3). The FNPRM cites no statutory authority for a requirement that makes an incumbent LEC an unwilling buyer of a *CLEC's* voice channel, and there is none.

Even if line sharing could properly be characterized as an unbundling requirement, the FNPRM does not conduct the required analysis of the statutory standards in section 251(d)(2) of the Act. Instead, the FNPRM tentatively concludes that CLECs "will be *hampered* in their ability to provide advanced services" unless line sharing is ordered. *Id.* ¶ 99 (emphasis added). But CLECs plainly would not be "impaired" if denied the right to force incumbents to buy back a voice channel on the loop. 47 U.S.C. § 251(d)(2)(B).

1. Sharing Requirements Impose Substantial Costs and Should Not Be Imposed Absent a Demonstrated Need.

Section 251(d)(2) plays a crucial role in promoting *competition* -- as opposed to aiding particular *competitors*.[11] Because government-mandated sharing of facilities entails significant costs and can, in some cases, hinder competition more than it helps, section 251(d)(2) limits unbundling to those cases in which the competitive benefits of sharing outweigh the competitive costs.[12] The competitive costs of mandatory sharing include diminished incentives

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11/ As Judge Posner has explained, "[t]he policy of competition is designed for the ultimate benefit of consumers rather than of individual competitors." *Marrese v. American Academy of Orthopaedic Surgeons*, 706 F.2d 1488, 1497 (7th Cir. 1983).

12/ *See AT&T v. Iowa Utils. Bd.*, 119 S. Ct. 721, 753-54 (1999) (Breyer, J., concurring) ("Regulatory rules that go too far, expanding the definition of what must be shared beyond that which is essential to that which merely proves advantageous to a single competitor, risk costs

for incumbents to invest in the maintenance and improvement of their facilities and inefficiencies and delays associated with having regulatory proceedings, rather than market forces, determine the terms on which facilities may be obtained. Justice Breyer discussed these costs at length in his concurring opinion in *Iowa Utilities Board*:

> [C]ompulsory sharing can have significant administrative and social costs inconsistent with the Act's purposes . . . Even the simplest kind of compelled sharing . . . means that someone must oversee the terms and conditions of that sharing. Moreover, a sharing requirement may diminish the original owner's incentive to keep up or to improve the property by depriving the owner of the fruits of value-creating investment, research, or labor. . . . The more complex the facilities, the more central their relation to the firm's managerial responsibilities, the more extensive the sharing demanded, the more likely these costs will become serious. And the more serious they become, the more likely they will offset any economic or competitive gain that a sharing requirement might otherwise provide.[13]

In addition, sharing requirements diminish the incentives of competitors to develop facilities and systems that could serve as true alternatives to those of the incumbent. As Justice Breyer observed, an overbroad sharing requirement artificially narrows the scope of competitive efforts and, in the case of an unlimited sharing requirement, drains "competition" of virtually all substantive effect.

> It is in the *un*shared, not in the shared, portions of the enterprise that meaningful competition would likely emerge. Rules that force firms to share *every* resource or element of a business would create, not competition, but pervasive regulation, for the regulators, not the marketplace, would set the relevant terms. . . . [A] world in which competitors share every part of an incumbent's existing

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that, in terms of the Act's objectives, may make the game not worth the candle.").

13/ *Id.* at 753-54 (citation omitted).

> system . . . is a world in which competitors would have little, if anything, to compete about.[14]

In light of these substantial costs and risks, sharing of facilities should not be required in the absence of a demonstrated competition-related need.[15] In performing the impairment analysis required by section 251(d)(2)(B), the Commission should determine whether there are available alternatives to the element (or, *sub*element, in the context of frequency unbundling) for which new entrants seek forced sharing. Rather than merely speculating about what network elements (or subelements) competitors need from incumbents, the Commission should rely in the first instance on empirical evidence concerning the actual competitive behavior of the numerous CLECs that are now providing service. Doing so will greatly enhance the Commission's ability to make accurate determinations as to whether specific unbundling requirements would promote competition or impair it.[16]

14/ *Id.* at 754.

15/ The essential facilities doctrine of antitrust law supports this limiting principle. Scholars have recognized that forced sharing of facilities and services that are not truly essential to the ability of another provider to enter the market is likely to be counterproductive. *See, e.g.*, Alfred E. Kahn, *Letting Go: Deregulating the Process of Deregulation* 48 (1998); Affidavit of Jerry A. Hausman and J. Gregory Sidak, attachment to Comments of United States Telephone Association, May 26, 1999, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98.

16/ While the inquiry regarding "available alternatives" to a proposed UNE almost always concerns *non*-ILEC sources, in the line-sharing context the *incumbent's* unbundled loop, in its unshared state, is the most relevant alternative (although the increasing availability of other last miles certainly should be considered). In other words, the question is whether CLECs will be impaired if they continue to purchase whole loops from incumbents but are not given a right to give back a voice channel.

2. CLECs Would Not Be Impaired Without Line Sharing, Because Competition Already Is Thriving.

Empirical evidence overwhelmingly demonstrates that CLECs would not be impaired without compelled line sharing, and therefore that a so-called "data functionality" should not be unbundled under sections 251(c)(3) and 251(d)(2)(B). First and foremost, the Commission recently concluded that CLECs are *ahead of* incumbent LECs in rolling out advanced data services.[17] The Commission noted in February 1999, for example, that CLECs such as Covad, Rhythms NetConnections, e.spire, and Network Plus have succeeded in providing service to residential consumers.[18] And many other CLECs have burgeoning data operations. CLECs now provide xDSL service in each of the 10 largest MSAs, and 25 of the top 50.[19] They are in at least 21 states and 273 cities.[20] The Association for Local Telecommunications Services ("ALTS") -- the CLECs' own trade association -- asserts that new entrants, rather than incumbents, "were the first" to deploy high-speed data services and "continue to deploy such advanced technologies at a dramatic pace."[21] ALTS further insists that

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17/ *See Section 706 Report* ¶¶ 53, 56, 58 (discussing current deployment of broadband facilities beginning with those that are the most advanced, and listing CLECs -- as well as cable operators, utilities, and wireless cable operators -- ahead of incumbent LECs).

18/ *Id.* ¶ 56.

19/ *See UNE Fact Report* at VI-19, submitted with Comments of United States Telephone Association, May 26, 1999, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 ("*UNE Fact Report*").

20/ *Id.*

21/ Petition of the Association for Local Telecommunications Services (ALTS) for a Declaratory Ruling Establishing Conditions Necessary to Promote Deployment of Advanced Telecommunications Capability Under Section 706 of the Telecommunications Act of 1996 at ii, CC Docket No. 98-78 (filed May 27, 1998).

CLECs *lead incumbents* in providing advanced services over incumbent LECs' loops,[22] and points out that CLECs offer advanced services to more than five million homes, a number that should quadruple in 1999 alone.[23]

A recent ex parte report by the Competitive Broadband Coalition provides similar CLEC success stories:

- *Covad* is aiming to reach over 20 million business and residential customers by the end of 1999.
- *ICG* announced that it would deploy DSL service by the end of 1998 to 100 central offices in Colorado, California, the Ohio Valley, and parts of the Southeastern U.S.
- By the third quarter of 1999, *NorthPoint* expects to offer DSL service to 40% of all US businesses and more than 20% of all residences.
- *Rhythms* introduced DSL service in 11 cities in 1998, and expects to offer service in the 35 largest metropolitan areas by the end of 1999, and in the 50 largest cities by the end of 2000.

Lee L. Selwyn, *et al.*, *Building a Broadband America: The Competitive Keys to the Future of the Internet* 68 (May 1999) (citations omitted). Selwyn's report concludes that "[t]he current widespread availability of broadband service confirms that . . . existing legislation and regulatory policy is working." *Id.* at 79.

Plainly, CLECs are not *impaired* by having to buy whole loops without the option to force incumbent LECs to buy back voice channels. Competition is prospering under the current regulatory regime, and the competitive strength of new entrants is only increasing. While

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22/ *See* ALTS Press Release, *ALTS' Fall Education Seminar Proves Success of Telecom Act in Stimulating Broadband Data and Competitive Providers*, Sept. 18, 1998.

23/ *See* ALTS Press Release, *ALTS Faults Monopolies' Repeated Efforts to Bypass Competitive Requirements for Advanced Services*, Dec. 7, 1998.

existing unbundling obligations and other burdens dampen incumbents' investment incentives, CLECs are stepping up their deployment of advanced services dramatically and have formed numerous strategic alliances with major IXCs and other high-tech companies to assist this effort.[24] Given the vitality of competition *in the absence* of a line-sharing requirement, there is no basis for finding that CLECs *need* line sharing in order to compete with incumbent LECs in the provision of advanced services.

That the business plans of some CLECs entail providing data services exclusively by no means justifies unbundling the loop's data frequencies as a device to reduce the amount such carriers must pay for the loop. As the Supreme Court expressly ruled in *Iowa Utilities Board*, not every cost increase is an "impairment" that justifies unbundling.[25] Section 251(d)(2) asks whether an efficient competitor's general "ability to provide service" is impaired, *not* whether any particular competitor's "ability to provide service profitably using any particular business plan of its choosing" is impaired. Accordingly, because the emerging market for advanced services is already highly competitive where CLECs pay for whole loops (if they wish to use incumbent LEC facilities at all), the fact that a particular carrier might find it less expensive or more convenient to buy data frequencies as a UNE is immaterial.[26]

24/ *See UNE Fact Report* at VI-24.

25/ *See Iowa Utils. Bd.*, 119 S. Ct. at 735 (noting that cost differences, standing alone, do not necessarily impair the ability of a telecommunication carrier "to provide the services it seeks to offer," and that a rule defining "any increase in costs" as an impairment violates Congress's intent).

26/ Antitrust principles strongly support this conclusion. Because the goal of section 251 "is not to permit particular rivals to survive, but to make markets more competitive," forced sharing of facilities is not appropriate "when actual or potential rivals *other than the plaintiff* are able to compete without the claimed facility." IIIA Areeda & Hovenkamp, *Antitrust Law* ¶ 773b3, at 206, 207 (rev. ed. 1996) (emphasis added). A facility must be shared "only when it is vital to

3. None of the FNPRM's Tentative Conclusions Regarding CLECs' Supposed Competitive Disadvantages Alters the Impairment Analysis.

As noted above, the FNPRM suggests that line sharing is necessary because CLECs would be "hampered" by having to obtain a new line to provide advanced services, while the incumbent can use an existing line. FNPRM ¶ 99. Not only is this proposition legally insufficient to warrant line sharing, but, as a factual matter, it rests on false premises. A CLEC that provides voice service over a leased loop does *not* have to obtain another loop to provide xDSL; rather, it can provide voice and data service over a single loop, just as an incumbent can. The Commission recently confirmed this fact in rejecting CLEC assertions that the pricing of incumbent LEC facilities subjects them to an unfair "price squeeze." *See GTE Operating Telephone Cos.*, 13 FCC Rcd 22466 ¶ 31 (1998). The Commission noted that an incumbent's network elements "are capable of supporting a variety of services in addition to ADSL," and that CLECs have "the same opportunity as [the incumbent LEC] to recover the costs of network elements from all of the services they offer using those facilities." *Id.* A carrier that "*choos[es]* to offer only data service over a facility that is capable of carrying much more," has also *chosen* not to "reap the entire revenue stream that the facility has to offer." *Id.* (emphasis added). Thus, far from facing any unfair disadvantages, *see* FNPRM ¶ 99, CLECs that purchase unbundled loops have the same opportunities as incumbents to exploit the revenue potential of those facilities, and CLECs that fail to reap the entire revenue stream do so freely and willfully.

Even carriers that *choose* to be data-only providers -- something incumbent LECs are not free to do -- are not disadvantaged vis-a-vis incumbent LECs. These CLECs have been

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both the plaintiff's individual competitive viability and the viability of the market in general." *David L. Aldridge Co. v. Microsoft Corp.*, 995 F. Supp. 728, 752-53 (S.D. Tex. 1998).

able to compete notwithstanding the need for customers who continue buying voice service from the incumbent to purchase a second line. *See supra* Section II.B.2 (describing successes of Covad, NorthPoint, and Rhythms, among other DLECs).

Moreover, competitive data service providers are by no means "forced" to provide voice services, as the FNPRM suggests. FNPRM ¶ 99. If a data provider does not want to provide voice service over the unused channel that it generates on an unbundled loop, it can partner with another carrier that *does* wish to provide voice service; indeed, the alliances that data-focused CLECs have formed with AT&T, MCI WorldCom, and other voice carriers, *see supra* n.24, should facilitate such arrangements.

There is no sound reason to require incumbent LECs to take back a channel created by the CLEC's xDSL equipment, when a CLEC can sell the channel to another carrier, instead. That CLECs might prefer to take the path of least resistance by conscripting incumbents as buyers, rather than assuming responsibility for maximizing the efficiency of unbundled loops themselves or with a teaming partner, is not a legitimate competitive concern and thus not a proper justification for Commission action. Moreover, as a practical matter, if two carriers were to attempt to share a line collaboratively, rather than as a result of government coercion, the prospects for working out solutions to operational problems -- such as the threat of voice degradation -- would increase markedly.

This teaming option would alleviate the Commission's concern that CLECs should not be required to invest in circuit-switched voice technology, which might soon be obsolete. *See* FNPRM ¶ 99. By forging alliances with an IXC or other voice carrier, a CLEC could avoid the need to acquire circuit-switched facilities. But even if CLECs were required to make such investments, and if circuit-switched technology will, in fact, become obsolete, the

FNPRM ignores the fact that incumbents are confronted with the same risk, except to a far greater extent. The FNPRM articulates no reason why *incumbents* should be compelled to invest in circuit-switched technology -- and provide service even to those voice customers that must be served at a loss -- if such investments are so disadvantageous.

More fundamentally, the FNPRM's attempt to predict where technology is going, and to craft disparate policies for incumbents and their competitors as a result of that prediction, is misguided. In other contexts, the FNPRM recognizes that the Commission's rules should not "arbitrarily freeze technological development," and should "stimulate, rather than stifle, technological innovation." FNPRM ¶¶ 100, 101. At the same time, however, the FNPRM's reliance on technological forecasts conflicts with these principles -- as well as the oft-recognized precept that the market, rather than regulators, should determine which technologies fail and which succeed. Had the Commission consigned the circuit-switched network to the scrap heap even a few years ago, xDSL itself never would have been developed.

C. Cost Allocation and Pricing Issues Undermine the Rationale for the Line-Sharing Proposal.

The cost allocation and pricing issues raised by the FNPRM (¶ 106) provide additional reasons to reject the line-sharing proposal, because they would preclude granting CLECs access to a loop's so-called "data functionality" (*id.* ¶ 103) at a price that is lower than the price of an unbundled loop. As a threshold matter, it does not make sense to consider what price a *CLEC* would pay the incumbent for a data channel, because the FNPRM proposal would force an incumbent LEC to sell a CLEC a *whole* loop, and to *buy back* whatever channel the CLEC does not use. The appropriate question is what *rebate* off the loop price (if any) the CLEC should get for returning that channel. The answer is none.

Where a CLEC creates voice and data channels by installing xDSL equipment, its retention of control over the loop -- and over power usage, in particular -- renders the unused spectrum worthless to an incumbent LEC as a potential voice channel. A CLEC-generated voice channel might suddenly be rendered inoperable by a CLEC's decision to effect a slight power boost. In addition, the SDSL technology employed by many CLECs precludes use of the 0-4,000 Hz frequency band that incumbents use to provide voice services, thus putting in serious doubt whether incumbent LEC could provide voice service *at all* using a "voice" channel created by a CLEC using SDSL. An incumbent LEC simply could not afford to bear the risk of substantial voice degradation presented by the use of CLEC-created voice channels, and clearly would not *pay* anything to do so.

Pricing in a line-sharing regime also would have to reflect the tremendous value that a CLEC would obtain by acquiring the loop's data-transmission potential. Granting CLECs a discount off the price of an unbundled loop as a result of their return of a voice channel would not account for such value, and accordingly could "expose the Treasury to liability both massive and unforeseen."[27] Compelling incumbent LECs to participate in line sharing would effect a *per se* physical taking of their property,[28] and, "whether or not the United States so intended, if there is a taking . . . the Government has impliedly promised to pay [just] compensation and has afforded a remedy for its recovery by a suit in the Court of [Federal] Claims."[29] The risk of

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27/ *Bell Atlantic Telephone Cos. v. FCC*, 24 F.3d 1441, 1445 (D.C. Cir. 1994).

28/ *See Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 426 (1982) (a "permanent physical occupation authorized by government is a taking without regard to the public interests that it may serve").

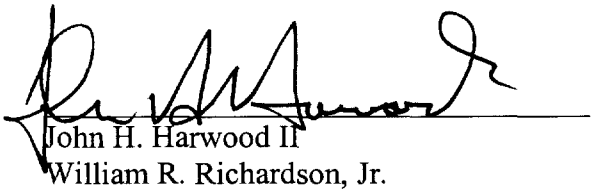
29/ *Regional Rail Reorganization Act Cases*, 419 U.S. 102, 126-27 (1974).

undercompensating incumbent LECs for the data-transmission potential CLECs would capture thus provides another reason to reject the line-sharing proposal.

CONCLUSION

For the reasons discussed above, U S WEST urges the Commission to adopt the positions set forth in these comments.

Respectfully submitted,



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June 15, 1999

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